

**BEFORE THE
STATE CORPORATION COMMISSION
OF VIRGINIA**

Application of)	
)	
Verizon Virginia Inc.)	Case No. PUC-2007-_____
and)	
Verizon South Inc.)	
)	
For a Determination that Retail Services Are)	
Competitive and Deregulating and Detariffing)	
of the Same)	

NORTHWEST (NWST)

EXHIBITS

PUBLIC VERSION

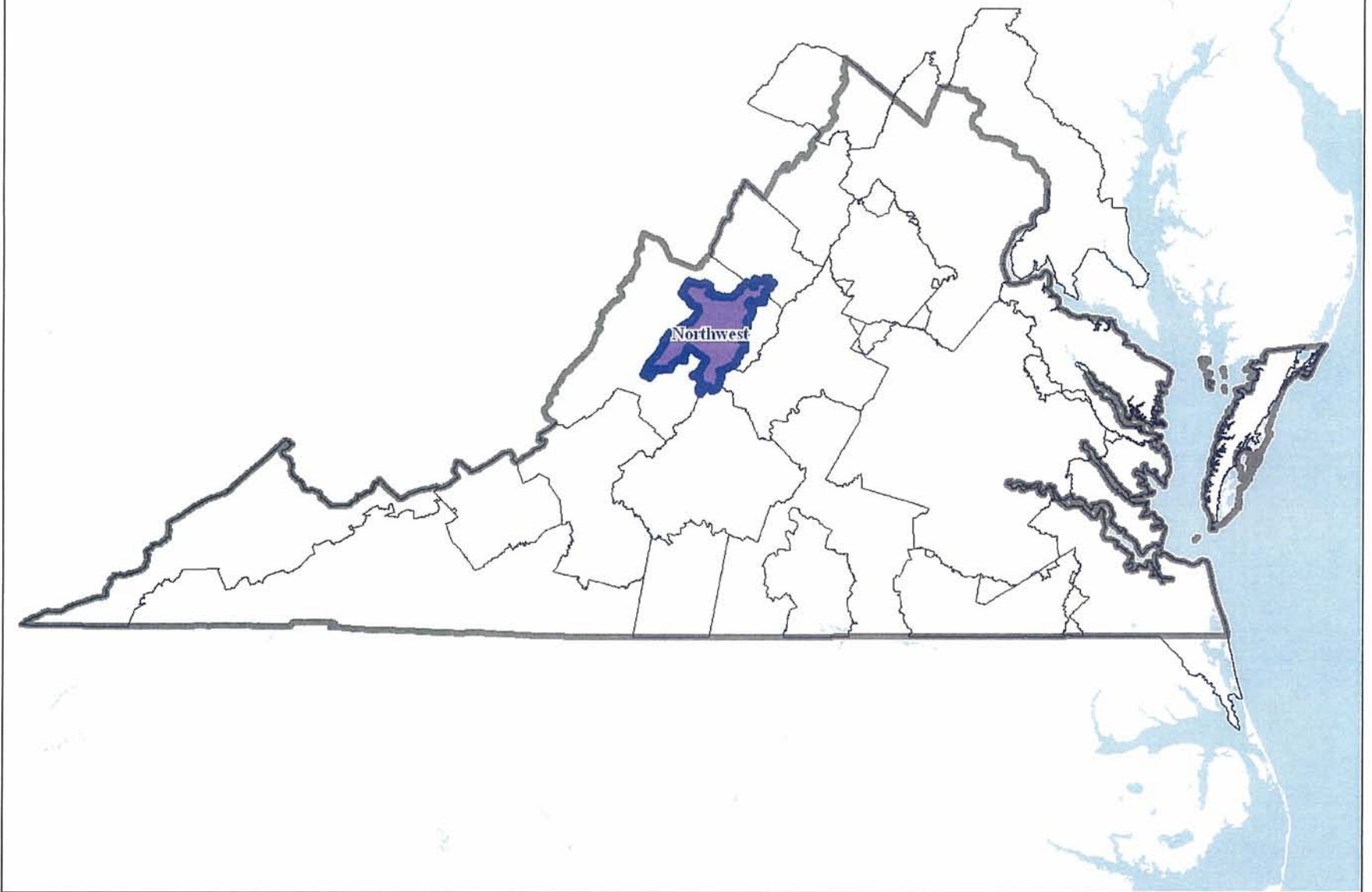
Northwest (NWST) Exhibits

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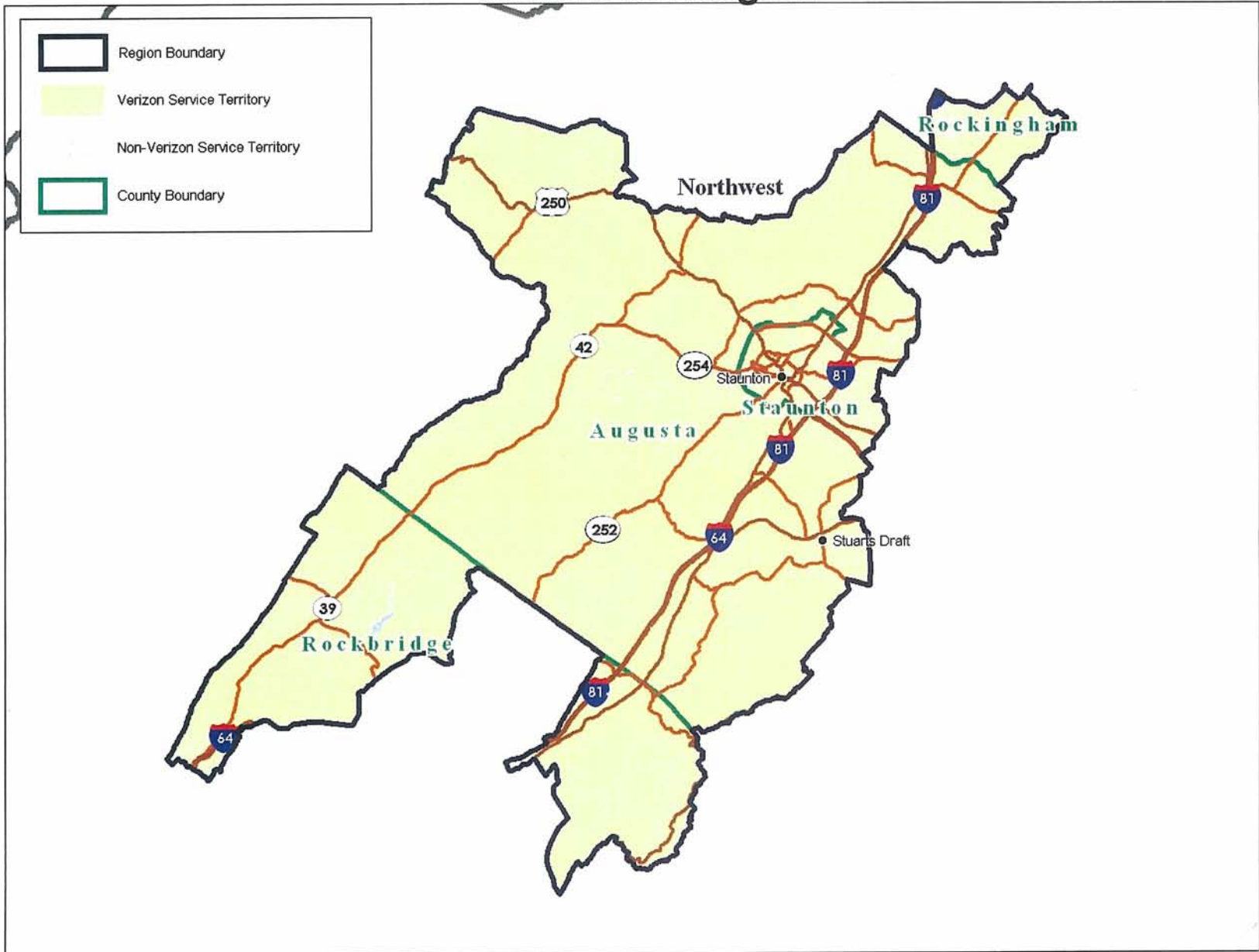
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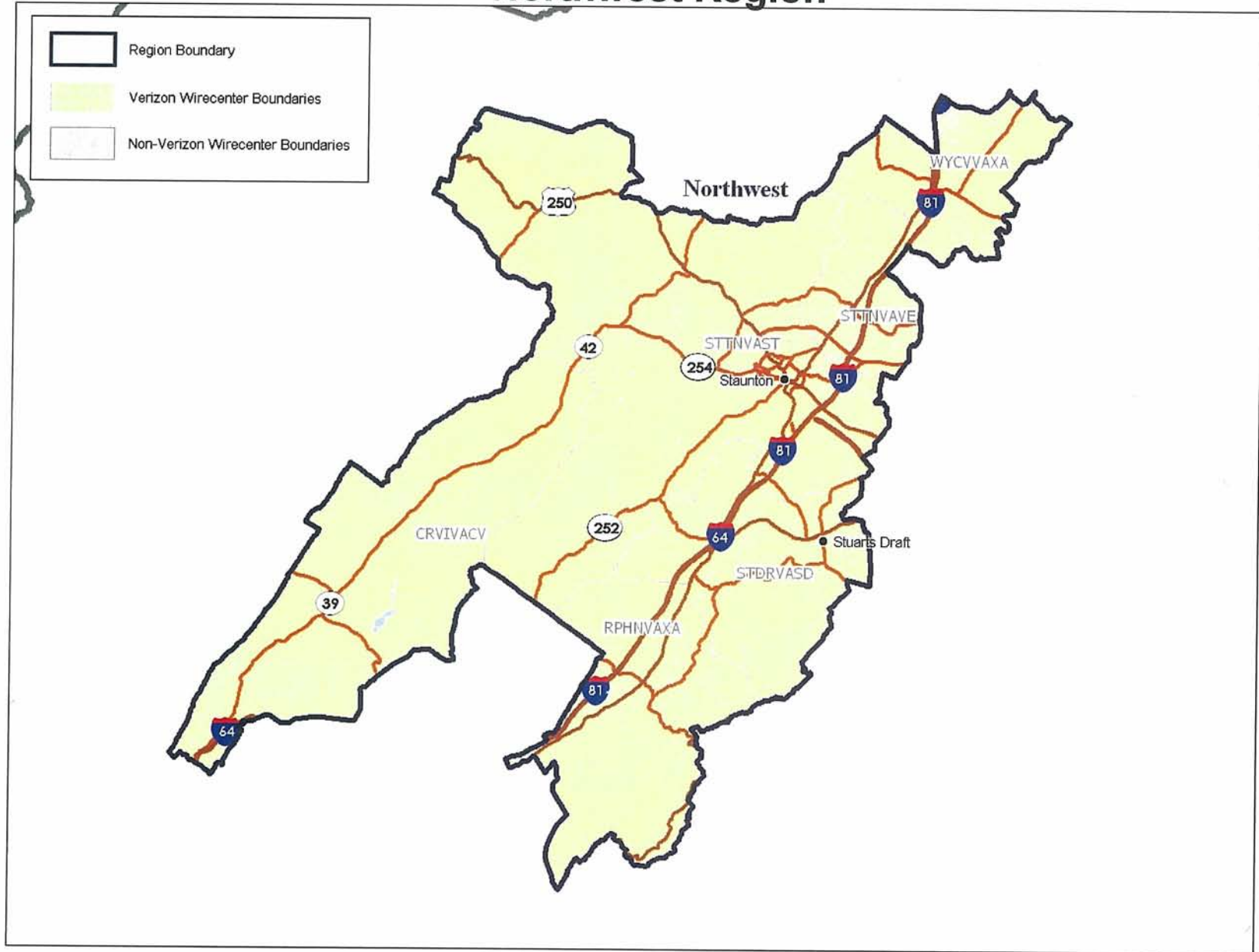
Northwest Region



Northwest Region



Northwest Region



NWST-2

**COMPETITION AND POTENTIAL COMPETITION
FOR RETAIL TELECOMMUNICATIONS SERVICES IN
VERIZON'S NORTHWEST REGION
SERVICE TERRITORY**

Report of Jeffrey A. Eisenach, Ph.D.
January 17, 2007

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I. OVERVIEW

Verizon's service territory in the Northwest region consists of 746 square miles, with a population of 69,861 living in 27,969 households as of 2006; there are 2,801 business establishments.¹ The average population density is 94 residents per square mile, and the median household income is \$46,470.² Verizon operates seven wire centers in the region.³

The Northwest region is located in the 540 area code, in the western portion of Augusta County; its southernmost portions are in northern Rockbridge County and a small portion extends into Rockingham County to the north. The area is bisected by I-81 running from northeast to southwest, and also includes portions of I-64 and State Route 250. It is bordered by Rockingham County on the northwest, Highland and Bath Counties on the west, Nelson and Albemarle counties on the east, and Rockbridge County on the southwest.⁴

The region is predominantly rural: Densities range from a low of 28 persons per square mile in the Craigsville wire center to 185 persons per square mile in the STTNVAVE wire center in Staunton, but 81 percent of the population lives in the three wire centers in and around Staunton, all of which have population densities of or over 129 persons per square mile.⁵

Competition for telecommunications services is present and growing throughout the Northwest region, and is especially intense in and around Staunton. The evidence presented below shows that virtually all households and businesses have access to BLETs and OLETs from traditional CLECs and from CMRS providers. **[BEGIN CONFIDENTIAL]**

[END CONFIDENTIAL]

With respect to broadband, nearly all customers (94 percent) have access to cable modem service and several VoIP companies offer services in the region.

There are no barriers to entry. Significant entry has already occurred and more is underway. Comcast (formerly Adelphia), covers over 94 percent of the households in the Northwest region. The company has announced plans to roll out cable telephony in the near future. Long haul fiber connections are readily available, and much of the area is eligible for support from the Rural Utilities Service (RUS) and other agencies.

1. See Exhibit NWST-4.

2. See *id.*

3. See Exhibit NWST-3. In Exhibit NWST-4, there are only six wire centers listed for demographic purposes. The seventh wire center, CCVLVACH (Churchville) is disaggregated in NWST-15, however for the demographic data it is rolled into the STDRVASD (Stuarts Draft) wire center. See NWST-15. *Cf.* NWST-4.

4. See Exhibit NWST-1.

5. See Exhibit NWST-4.

The analysis below of the availability and usage of existing alternative services, and of the existence of potential competition and likelihood of new entry, demonstrates that competition and potential competition regulate the prices of Verizon's retail telephony services in the Northwest region, and that further entry and even more intense competition is a virtual certainty.

II. AVAILABILITY OF ALTERNATIVE SERVICES

All 27,969 households in the Northwest region and all 2,801 businesses in the Northwest region have the option to obtain alternatives to Verizon's BLETS, OLETS and Bundled Services from competitive providers. Facilities-based competition is present, and includes both traditional CLECs and cable providers, but numerous CLECs also provide services through resale and/or Wholesale Advantage agreements. Mobile telephone service is ubiquitous, and broadband service is nearly so.

A. Traditional CLECs⁶

Traditional CLECs provide competition throughout the Northwest region, and facilities-based competition is widespread.

Based on Verizon's E911 data, [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]⁹

NTELOS serves more than [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL] As discussed below, the company also offers mobile wireless service and its Portable Broadband product in the region.¹⁰

-
6. Here and in the remaining sections of this report, unless otherwise indicated, "traditional CLEC" refers to CLECs other than cable companies. "CLEC" refers to both traditional CLECs and cable companies.
 7. See Exhibit NWST-15 and Exhibit NWST-17. The E911 data includes lines that are unable to be assigned to a wire center. These unassignable lines are included in the aggregate competition information. This leads to some under representation of E911 lines when broken out by wire center.
 8. See Exhibit NWST-14.
 9. See Exhibit NWST-4 and Exhibit NWST-15.
 10. [BEGIN CONFIDENTIAL]

In addition, all households and businesses in the Northwest region can receive service from traditional CLECs through resale and/or Wholesale Advantage services available from Verizon.¹¹ As of March 2006, [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]

Altogether, a total of [BEGIN CONFIDENTIAL]

CONFIDENTIAL]¹⁴

B. Cable Telephony

Comcast purchased Adelphia's Northwest region franchise, and passes 94 percent of all households.¹⁵ The former Adelphia infrastructure is capable of providing cable telephony service, and Comcast has announced plans to deploy cable telephony in the area.

C. Mobile Telephony

All 27,969 households in the Northwest region have access to at least one CMRS provider, and 98 percent have access to two or more carriers.¹⁶ In addition to Verizon Wireless, there are seven CMRS providers offering retail telephone services in the Northwest region. They are Alltel, Cellular One, Cingular, NTELOS, Sprint, T-Mobile, and US Cellular.¹⁷

As of 2006, there are 17 cellular towers in the Northwest region.¹⁸ Of these, one has been constructed since 2004.¹⁹ There is at least one cellular tower located in the area served by five of the Verizon wire centers.²⁰

[END CONFIDENTIAL]

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11. See Exhibit NWST-16.
 12. See Exhibit NWST-15.
 13. See Exhibit NWST-15.
 14. See Exhibit NWST-14.
 15. See Exhibit VA-10 and Exhibit NWST-7.
 16. See Exhibit NWST-12.
 17. See Exhibit NWST-11.
 18. See Exhibit NWST-10.
 19. See *id.*
 20. Compare Exhibit NWST-3 and Exhibit NWST-10.

D. Broadband and VoIP

Increasingly, consumers are choosing to combine stand-alone broadband Internet access with VoIP services provided by “bring your own access” companies such as Vonage, thus creating their own bundles of broadband and retail telephony services. Both broadband and VoIP services are available to a vast majority of Northwest region households and businesses.

Cable Modem and DSL Service: Comcast offers cable modem service throughout its service territories in the Northwest Region, covering 94 percent of all households.²¹ In addition, Verizon makes DSL service without voice available to retail customers for \$26.99 per month. DSL service is available to [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] of households.²²

Fixed Wireless Service: In addition to wireline cable modem and DSL, approximately 19 percent of households have access to fixed wireless broadband services.²³ Providers include NTELOS and High Speed Link.net.

- NTELOS Portable Broadband: NTELOS offers its Portable Broadband service in the western part of the region, covering 16 percent of all households²⁴ NTELOS Portable Broadband is a fixed wireless service that provides users with a small external modem which is portable throughout the covered service territory. The service does not require a separate antenna or dish. It delivers speeds of up to 1.5 Mbps downstream and 550 Kbps for \$34.95 per month.²⁵
- HighSpeed Link Net: HighSpeed Link.Net (“HSL”) offers fixed wireless broadband covering the northern portion of the Northwest region.²⁶ Its service offerings range from 256 Kbps for \$40 per month to 1.5 Mbps for \$80 per month.²⁷

While none of the firms discussed above offer bundles that include VoIP services, customers have the option of purchasing alternatives to Verizon’s BLETS, OLETS and Bundled Services from by-pass VoIP companies. VoIP providers that offer telephone numbers in the 540 area code include SunRocket, Packet8, Net2Phone, and Vonage.²⁸

E. Overall Availability of Alternative Platforms and Competitors

Looking overall at the availability of service from alternative platform providers (i.e., from mobile wireless, cable modem, DSL, facilities-based CLECs and fixed wireless), 100 percent of all households in the Northwest Region have service available from at least one

21. See Exhibit VA-10 and Exhibit NWST-8.

22. See Exhibit VA-4.

23. See *id.*

24. See Exhibit NWST-13.

25. See NTELOS, Portable Broadband, <http://www.ntelos.com/landline/residential/portablebroadband.html> (last visited Nov. 22, 2006).

26. See Highspeed Link Net, Coverage Map, <http://www.highspeedlink.net/coverage/index.htm> (last visited July 21, 2006).

27. See *id.* at <http://www.highspeedlink.net/> (last visited July 21, 2006).

28. See West Testimony at 81.

alternative platform provider and 80 percent have service from three or more alternative platforms.²⁹

Similarly, looking overall at the availability of service from all competitors – i.e., the same measure as above, but counting each competitor separately (e.g., counting each CMRS provider separately), competition is even more extensive: 100 percent of households have competitive alternatives from at least two competitors, and 89 percent have access to service from five or more Verizon competitors.³⁰

III. USAGE OF ALTERNATIVE SERVICES

Verizon's internal data shows that at least [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] of wireline telephone lines in the Northwest region were being served by competitors as of March 2006, and past trends would indicate that proportion would have increased in the intervening months. However, these figures understate the true market share of competitors, since they fail to account for intermodal competition, such as from wireless and broadband.

Survey data indicates that [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL] of households subscribe to broadband. Taking intermodal competition into account, the data presented below show that Verizon voice lines now account for only 39 percent of all wireline telephony, wireless telephony and broadband connections in the region.

Time series data presented at the end of this section also shows that Verizon's wireline market share is falling, both in proportion to the number of wirelines served and relative to the number of households in the region. Taken together, the data presented in detail below demonstrates that the competitive alternatives described in Section II represent viable alternatives for Verizon's BLETS, OLETS and Bundled Services in the Northwest region, since customers are actually switching to them in large numbers.

A. Traditional CLECs and Cable Telephony

As detailed in Exhibit NWST-15, a total of [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]³³ The fact that competition is more

29. See Exhibit VA-4 and Exhibit NWST-5.

30. See Exhibit VA-5 and Exhibit NWST-6.

31. This figure does not include approximately six percent of the population (who by definition were not reached through Verizon's telephone survey) who have cut the cord altogether. See West Testimony at p. 63, n. 84.

32. See Exhibit NWST-15.

33. See Exhibit NWST-19.

advanced in business lines is not surprising, given that cable telephony had not yet been rolled out in the region.

These figures are consistent with the survey data presented by Mr. Newman for residential competition, which shows that [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] of residential customers in the Northwest region are using providers other than Verizon.³⁴ However, Mr. Newman's data shows that, in rural areas on average (including the Northwest region), only 7.2 percent of POTS business customers and 10.1 percent of all business customers are using other providers.³⁵ Thus, the data in Exhibit NWST-15 show that business competition in the Northwest region is far more advanced than in other rural areas of the state.

Exhibit NWST-15 also demonstrates that wireline competition is ubiquitous throughout the Northwest region. It shows that competitors are actually serving both business and residential customers in [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] of the seven wire centers in the Northwest region, including the smallest and most rural wire centers.³⁶ Furthermore, facilities-based competition is also present. [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]
These data demonstrate that alternatives to Verizon's BLETS, OLETS and Bundled Services from wireline competitors are available and in widespread use by both residential and enterprise customers throughout the Northwest region.

B. Mobile Telephony

The survey data presented by Mr. Newman shows that [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] of households in the Northwest region purchase telephone service from mobile telephone companies.³⁸ Moreover, [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]³⁹

While Mr. Newman's testimony does not provide data on business usage of mobile telephones specifically for the Northwest region, it does indicate that the proportion of businesses in rural areas (including the Northwest region) which purchase mobile telephone

34. See Exhibit VA-21.

35. See Exhibit VA-20.

36. See Exhibit NWST-15.

37. See *id.*

38. See Exhibit VA-21.

39. See *id.*

service is 49.2 percent,⁴⁰ and that 12.7 percent of business respondents consider their mobile telephone to be their primary means of voice communication.⁴¹

These figures do not include mobile telephone customers who have dropped their wireline service altogether, as these customers were not eligible for the telephone survey. As Mr. West's testimony indicates, national estimates suggest that approximately six percent of residential customers have "cut the cord."⁴²

Again, these figures demonstrate that the mobile wireless alternatives available to consumers in the Northwest region function as actual, viable alternatives to Verizon's BLETS, OLETS and Bundled Services.

C. Broadband and VoIP

The survey data presented by Mr. Newman show that [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]⁴³

One implication of this data is that Adelphia (now Comcast) has been successful in capturing nearly half of the market for broadband service, again showing the competitive challenge facing Verizon as it tries to retain customers in the face of Comcast's soon to arrive triple play offerings. The data also demonstrate that fixed wireless Internet providers are making significant inroads, even in this highly competitive market where wireline alternatives are nearly ubiquitous, and fixed wireless coverage apparently is limited to a relatively small percentage of households.

The survey data presented by Mr. Newman show that in rural areas in Virginia (including the Northwest region), 48.5 percent of businesses subscribe to high-speed broadband service.⁴⁴

These overall usage rates for broadband demonstrate that the broadband plus VoIP "build your own bundle" option is available today to [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] residences and half of all businesses in the Northwest region, which already subscribe to broadband.

D. Overall Penetration of Wireline and Intermodal Competition

While it is not possible to estimate precisely the number of lines Verizon has lost to wireline and intermodal competitors, it is clear that competition is having a significant impact on Verizon's market share, both in terms of wireline telephony and the overall markets for BLETS, OLETS and bundled services, and that wireline competitors are winning a growing proportion of

40. See Exhibit VA-20.

41. See *id.*

42. See West Testimony at 64.

43. See Exhibit VA-21.

44. See Exhibit VA-20.

customers. The data also indicate that intermodal competitors are winning a growing proportion of customers from wireline carriers of all types (i.e., including both Verizon and the traditional CLECs and cable telephony providers).

Both Verizon's line count and its wireline market share in the Northwest region are dropping rapidly. As indicated in Figure 1 below, between December 2003 and March 2006 (i.e., in 27 months), the ratio of Verizon lines to households fell from [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]⁴⁶

During this same 27-month period, the number of business wirelines served by wireline CLECs rose by [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]⁴⁸

Figure 1 also demonstrates the significance of intermodal competition from wireless telephony and from broadband plus VoIP "build your own" bundles. It shows that the ratio of combined Verizon and CLEC residential lines to households fell from [BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]⁴⁹ Assuming people have not stopped using voice telephony altogether, these data clearly indicate that wireless and broadband providers are competing effectively with both Verizon and other traditional wireline providers – a conclusion which is consistent with the high rates of wireless telephony usage and broadband adoption discussed above.

45. See Exhibit NWST-19.

46. See *id.*

47. See *id.*

48. See *id.*

49. See *id.*

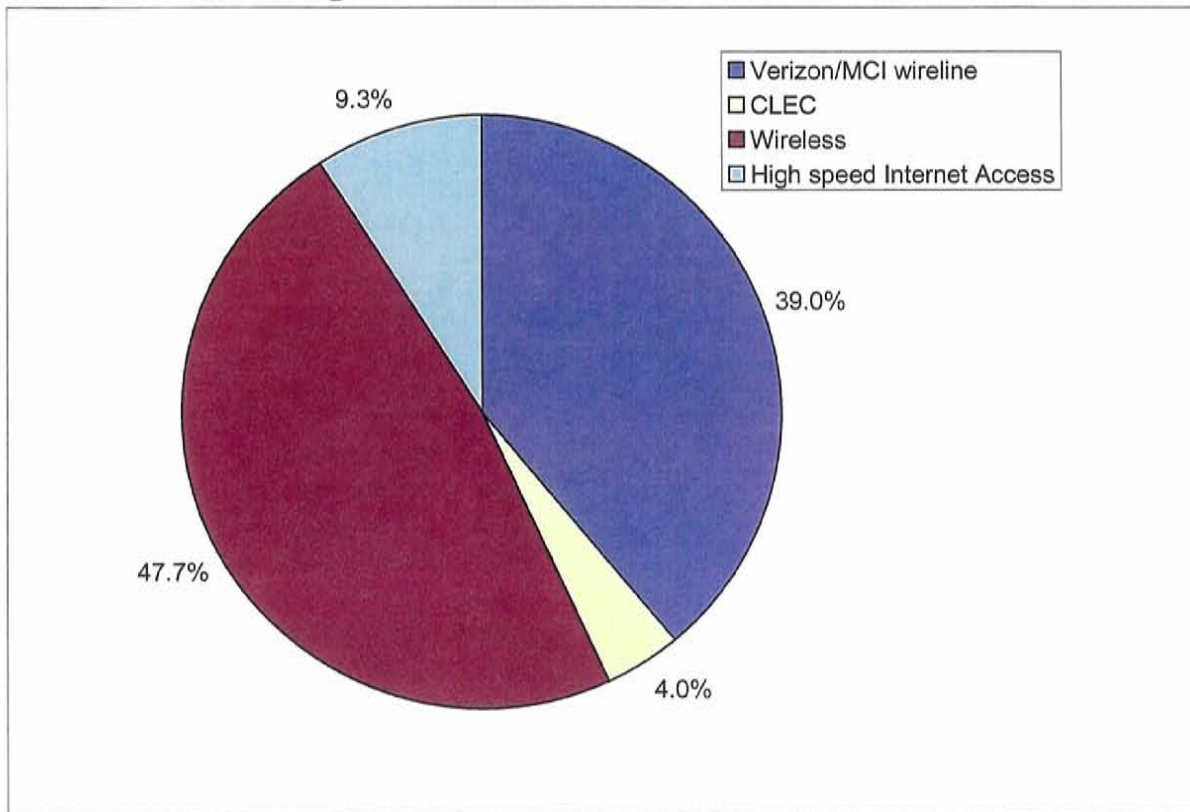
[BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]

Another perspective on Verizon's loss of overall share is shown in Figure 2 below, which shows the percentage of total connections – including wireline telephony, wireless telephony and broadband connections – served by Verizon, based on the survey conducted by Mr. Newman. As the figure shows, Verizon voice lines now account for only 39.0 percent of all wireline telephony, wireless telephony and broadband connections.⁵⁰

50. See Exhibit VA-22.

Figure 2: Verizon Share of Total Connections



IV. POTENTIAL COMPETITION AND ENTRY

While it is clear from the evidence presented above that actual competition already in the marketplace is present, even in the absence of additional entry, it is equally clear that entry has occurred, is occurring and is likely to continue occurring in the future. Competition in the Northwest region is thus certain to become even more intense in the coming months and years.

First, Comcast has stated its intention to roll out cable telephony over the former Adelphia service territory.⁵¹ Once the rollout is complete, the 94.3 percent of all households in the Northwest region will have access to cable telephony, and the competitive pressure on Verizon will increase substantially.⁵²

Facilities-based companies are also well-positioned to expand their offerings. In particular, NTELOS, which is the incumbent provider in the neighboring territory in southwest Augusta County, operates a point of presence in the Northwest region, has a large customer base, and has made a significant commitment by **[BEGIN CONFIDENTIAL]**

[END CONFIDENTIAL] is well positioned to further expand its

51. See West Testimony at 42. See also Comcast, FAQ, <https://www.comcast.com/Customers/FAQ/FaqDetails.ashx?Id=3804> (last visited Dec. 3, 2006); *id.* at <https://www.comcast.com/Customers/FAQ/FaqDetails.ashx?Id=3807> (last visited Dec. 3, 2006).

52. See Exhibit VA-10.

presence. Its Portable Broadband services are available in a small portion of the region currently, but could easily be expanded to cover most or all of the region, as is the case in the neighboring regions of Charlottesville, Harrisonburg and Lynchburg.

In addition, any of the CLECs currently serving the area could expand their service offerings by using resale and/or Wholesale Advantage services from Verizon. In the event of a price increase by Verizon, these companies could and would accommodate customers wishing to switch away from Verizon's services.

More broadly, barriers to entry in the Northwest region are extremely low. The Northwest region has extensive access to high-capacity fiber optic cable, including points of presence provided by Cavalier, NTELOS and ValleyNet.⁵³ There are already seven CMRS providers in addition to Verizon serving the Northwest region, and the widespread presence of cell towers throughout the region means that the mobile and fixed wireless entry is also inexpensive.⁵⁴ Finally, a significant portion of the land area is rural, and thus potentially eligible for funding from the Rural Utilities Service (RUS). In fact, the International Broadband Electric Cooperative, the same firm which has partnered with the CVEC to roll out broadband throughout its 16 county service territory, now has loan requests pending before the RUS to fund similar rollouts in Augusta and Rockbridge County,⁵⁵ presumably in conjunction with the Shenandoah Valley Electric Cooperative. Moreover, one of four counties in the Northwest region (Rockbridge) is eligible for support from the Appalachian Regional Commission.⁵⁶

V. CONCLUSION

Competition for retail telephone services in the Northwest region is present and certain to become more intense in coming years. By every measure, Verizon is already losing customers to traditional CLECs and intermodal competitors at a rapid pace, and this decline is taking place *at current prices*. The looming rollout of cable telephony services to nearly 100 percent of households in the region constitutes the most potent possible form of potential competition, regardless of precisely when it occurs. If Verizon were to raise prices, it would both accelerate the rate at which it is losing customers to existing competitive services, and increase the rate at which competitors and potential competitors deploy new services in the market.⁵⁷ The current level of competition, combined with the imminent threat of region-wide entry by cable telephony and the ability of other actual and potential competitors rapidly enter or expand their offerings, is fully adequate to regulate the price of Verizon's retail telephone services in this region.

53. See Exhibit VA-18.

54. See Exhibit VA-18.

55. Rural Utilities Service, Pending Broadband Applications as of November 2006, at 14, *available at* <http://www.usda.gov/rus/telecom/broadband/community-reports/oct-comm-report-pending.pdf>.

56. See Appalachian Regional Commission, Counties in Appalachia, <http://www.arc.gov/index.do?nodeId=27> (last visited Dec. 3, 2006).

57. An analysis conducted by Mr. Taylor estimates that a decision by Verizon to raise prices by 5 percent in the Northwest MSA would result in a *net* revenue loss of [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] annually. See Taylor Testimony, Table 14 at 94.

NWST-3

Wire Centers by Rate Group, Exchange, City and County

REGION	LOC ST	WIRECENTER	LOCATION NAME	Rate Group	Exchange	CENTRAL OFFICE CITY	COUNTY
Northwest	VA-E	CCVLVACH	CHURCHVILLE VA	06	STAUNTON	CHURCHVILLE	Augusta
		CRVIVACV	CRAIGSVILLE VA	06	CRAIGSVILLE	CRAIGSVILLE	Augusta
		STDRVASD	STUARTS DRAFT VA	06	STAUNTON	STUARTS DRAFT	Augusta
		STTNVAST	FILLMORE STREET VA	06	STAUNTON	STAUNTON	Staunton City
		STTNVAVE	VERONA VA	06	STAUNTON	VERONA	Augusta
	VA-S	RPHNVAXA	RAPHINE	08	RAPHINE	RAPHINE	Augusta
		WYCVVAXA	WEYERS CAVE	08	WEYERS CAVE	WEYERS CAVE	Augusta

NWST-4

CONFIDENTIAL
EXHIBIT NWST-4

NWST-5

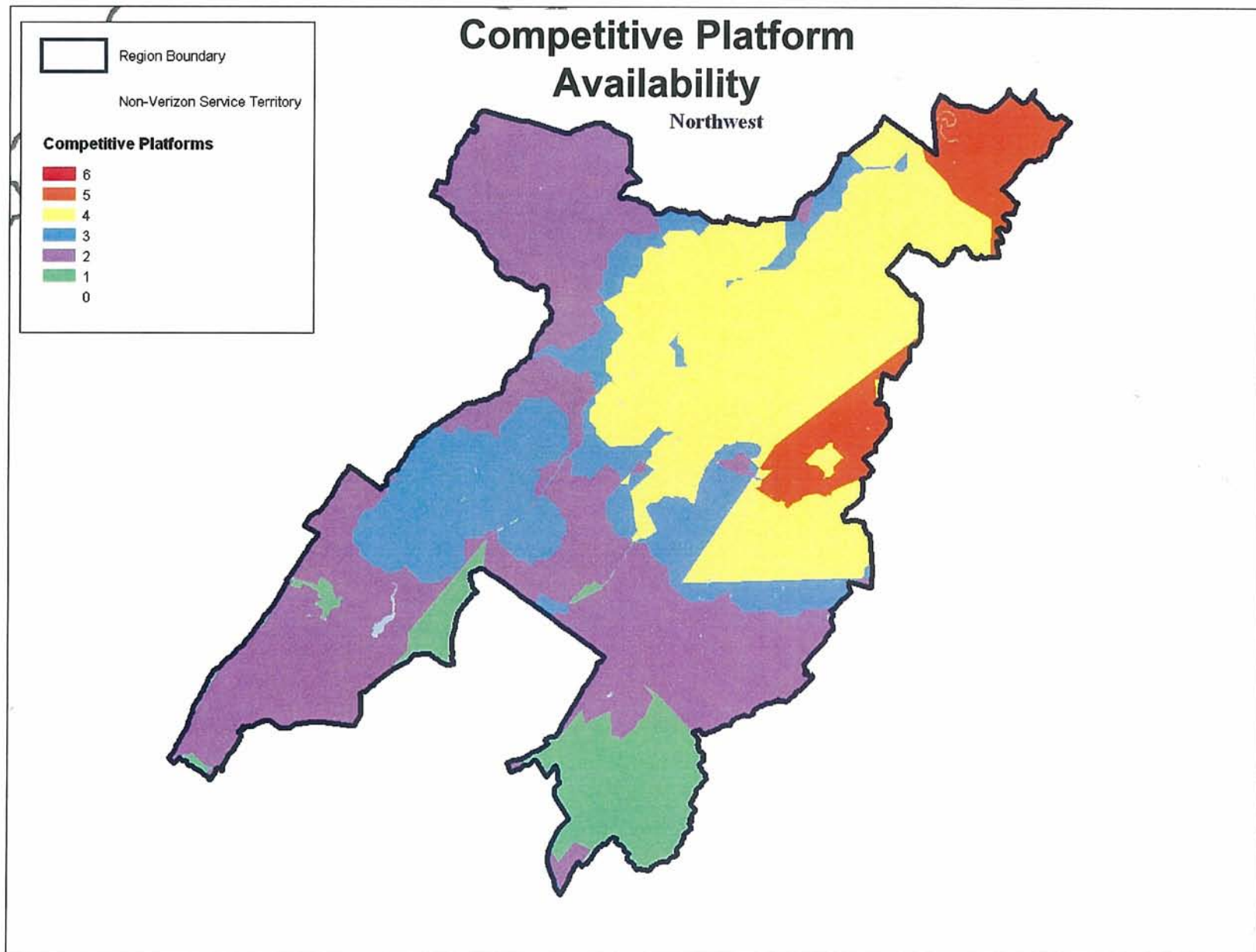


Exhibit NWST-5

NWST-6

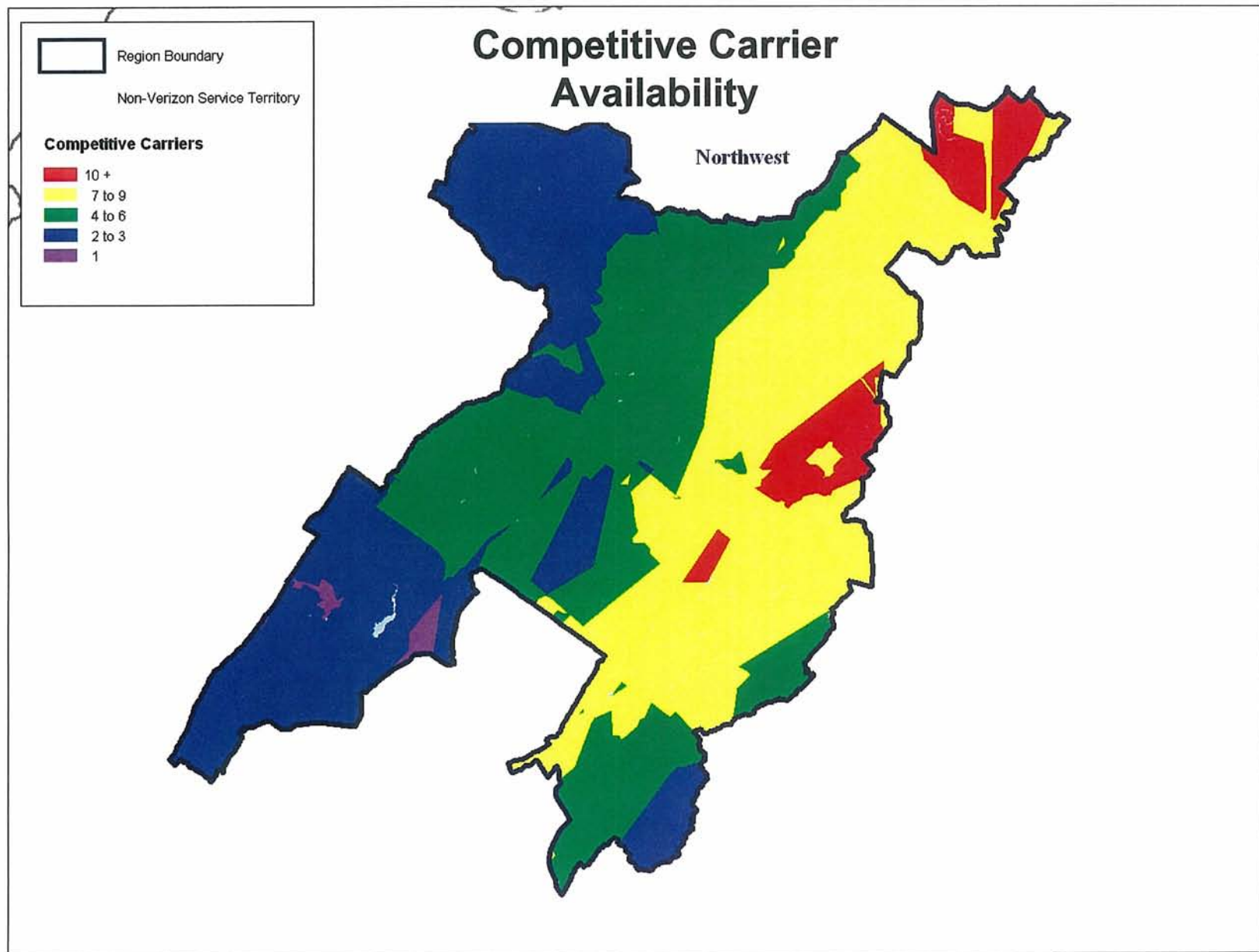


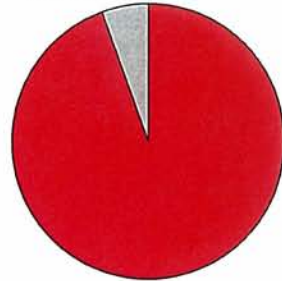
Exhibit NWST-6

NWST-7

Cable Availability

No MSA-Northwest

Not Passed by
Cable, 1,567, 6%



Adelphia, 26,402 ,
94%

Northwest

Virginia MSO Service

- All Other Carriers
- Formerly Adelphia Communications
- Charter Communications Inc.
- Comcast Cable Communications Inc.
- Cox Communications Inc.
- SuddenLink

Verizon Service Territory
Non-Verizon Service Territory

Exhibit NWST-7

Note: HH numbers reflect only those households in Verizon's Service Territory

NWST-8

Cable Modem Availability

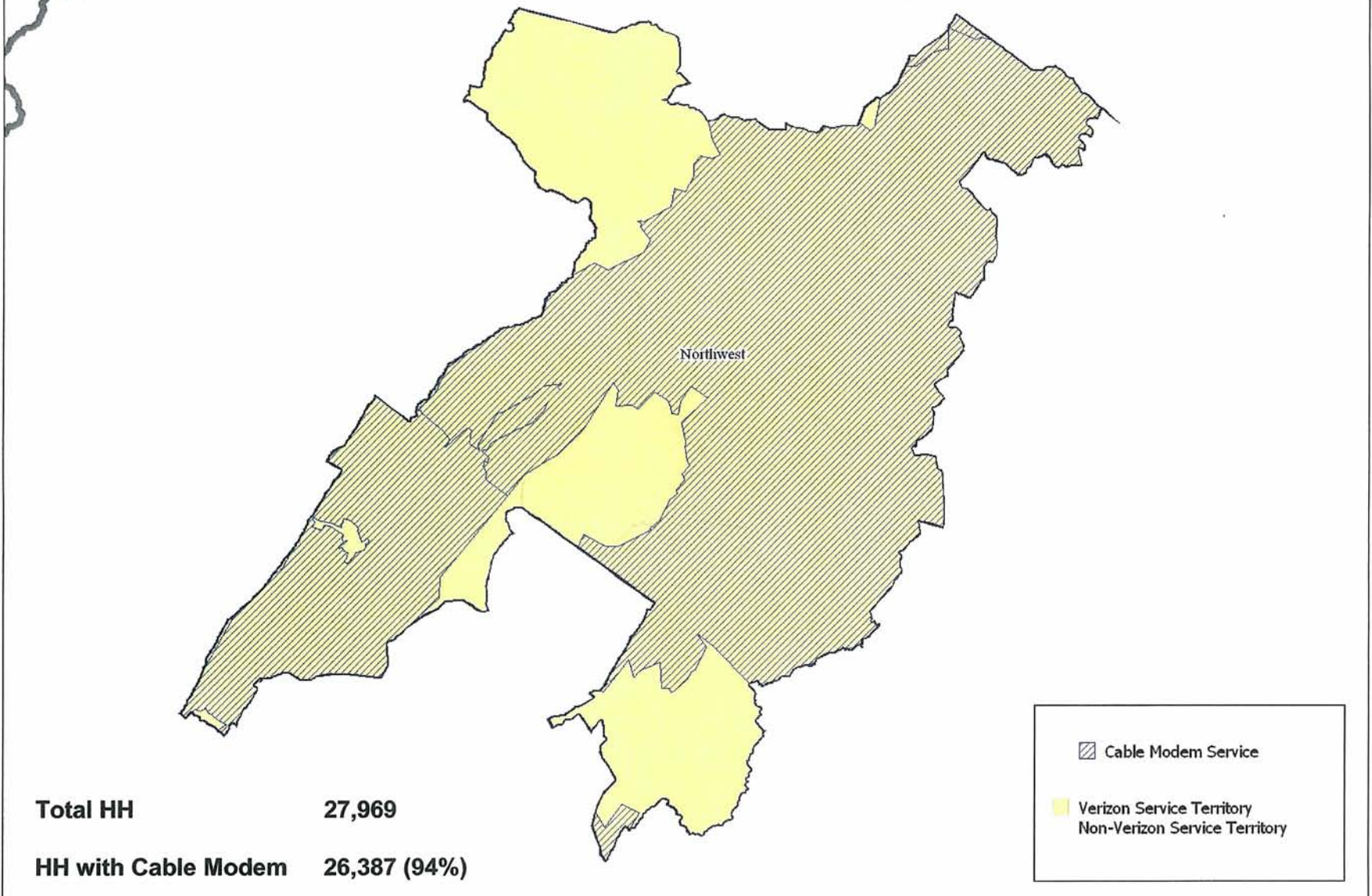


Exhibit NWST-8

Note: HH numbers reflect only those households in Verizon's Service Territory

NWST-9

Cable Voice Availability

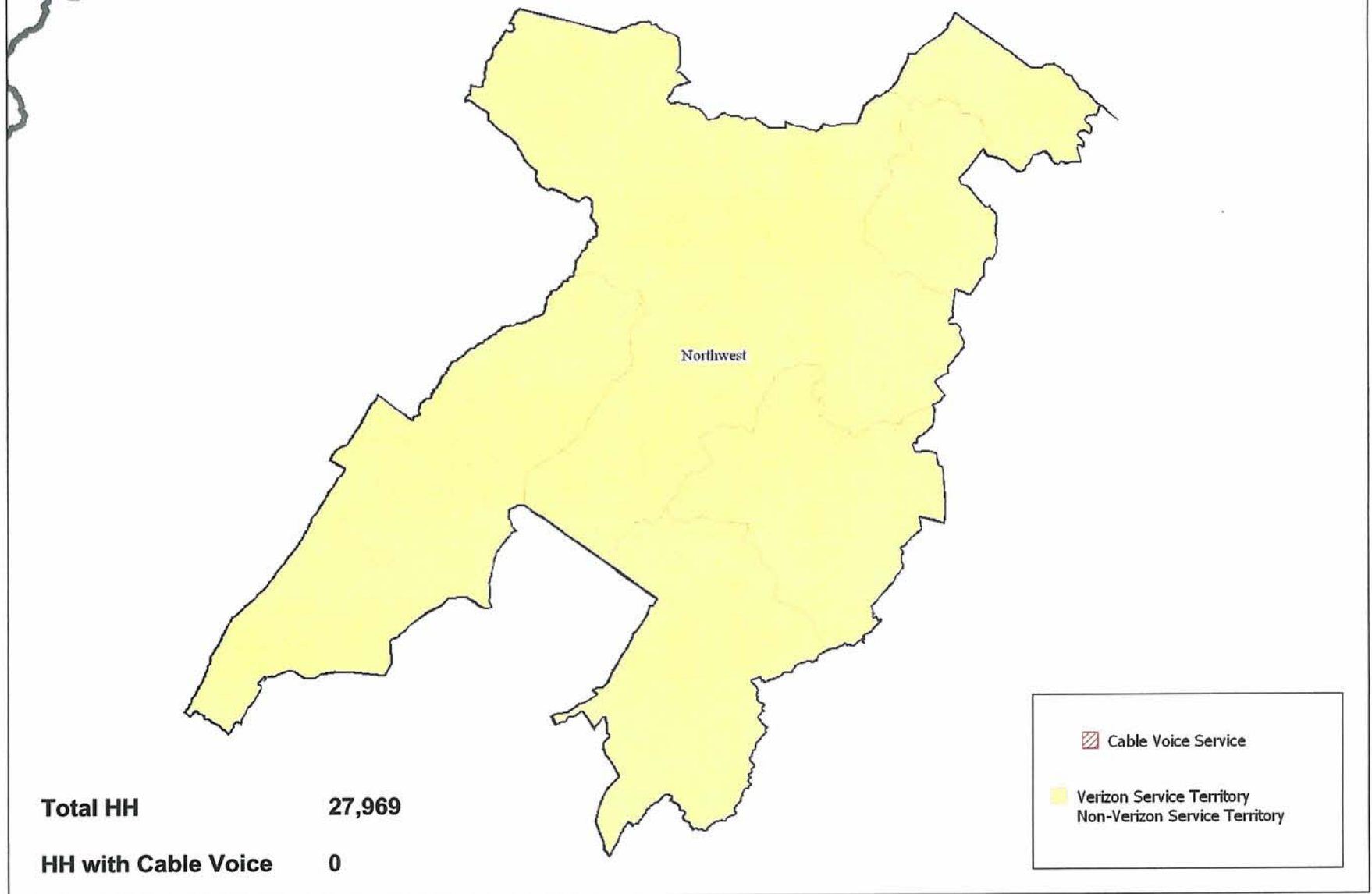


Exhibit NWST-9

Note: HH numbers reflect only those households in Verizon's Service Territory

NWST-10

Wireless Tower Locations by Year Constructed

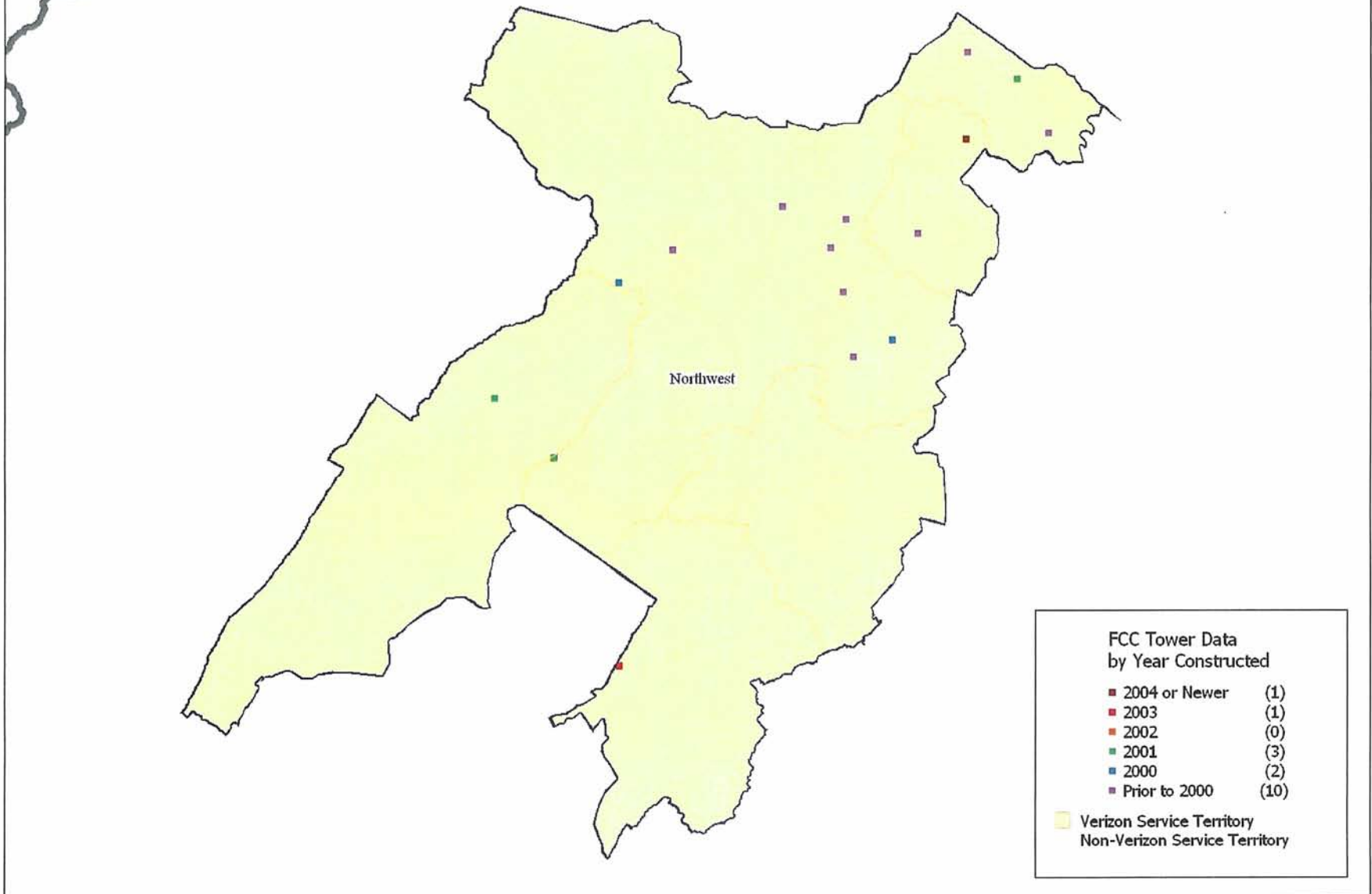
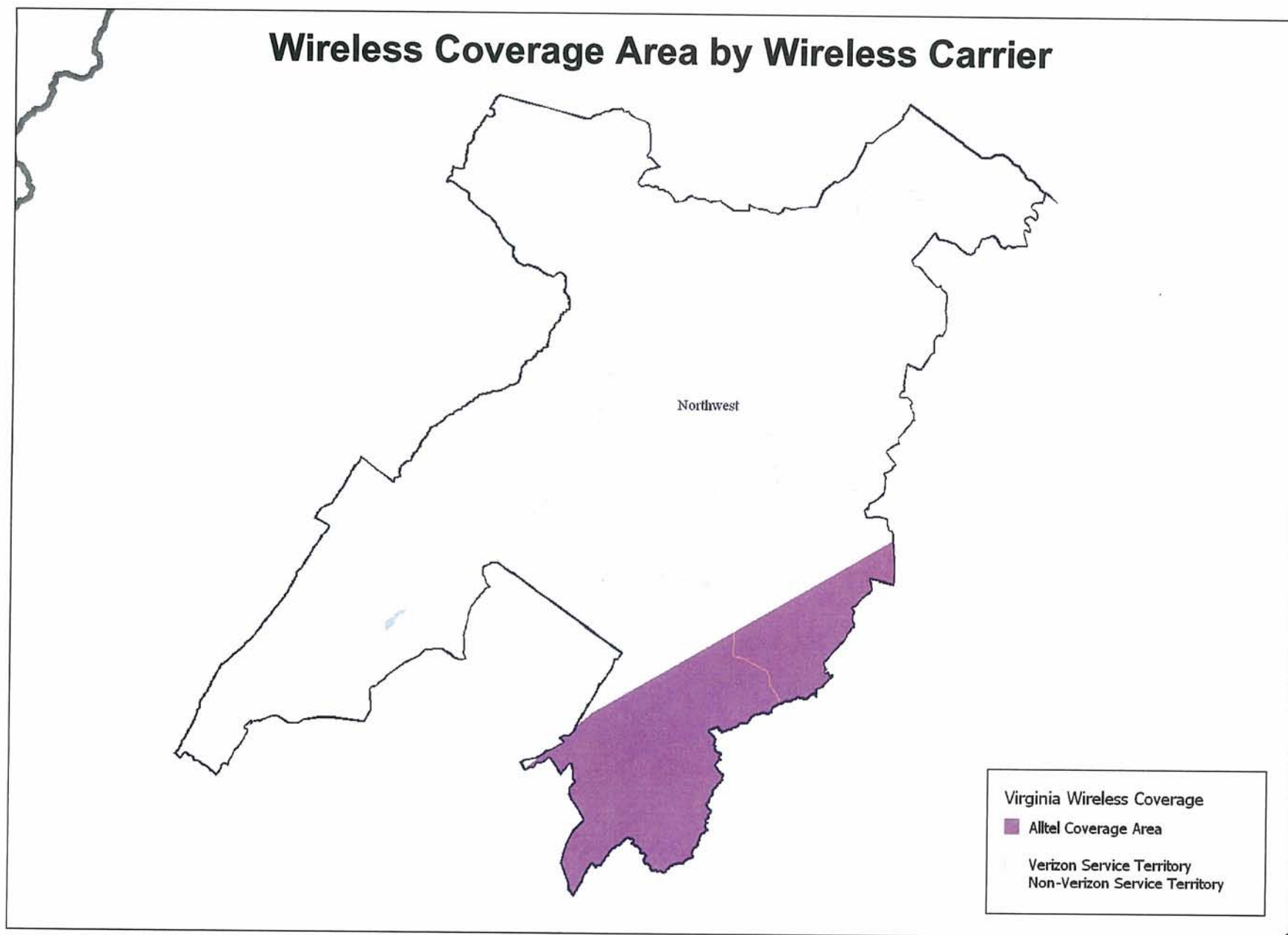


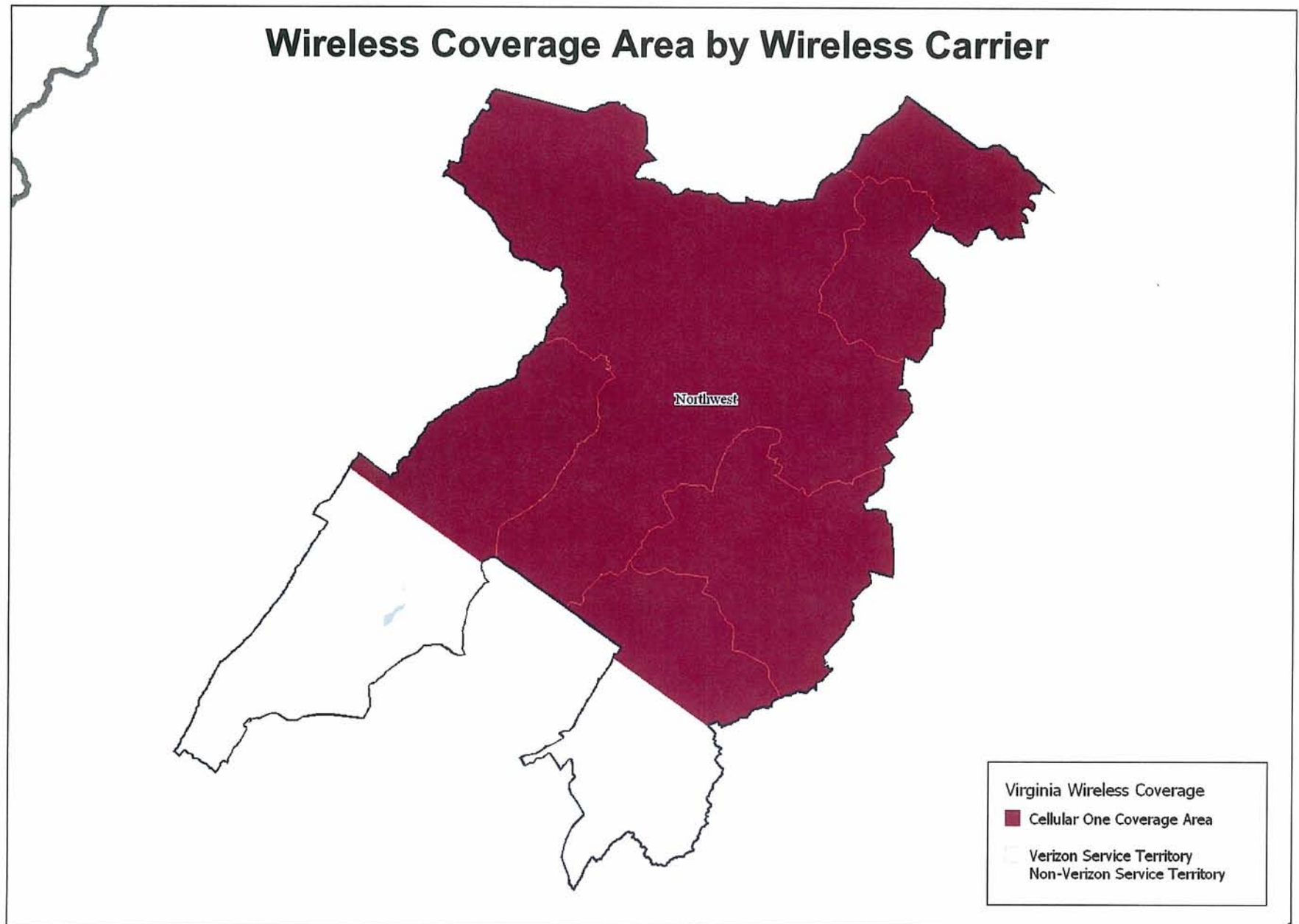
Exhibit NWST-10

NWST-11

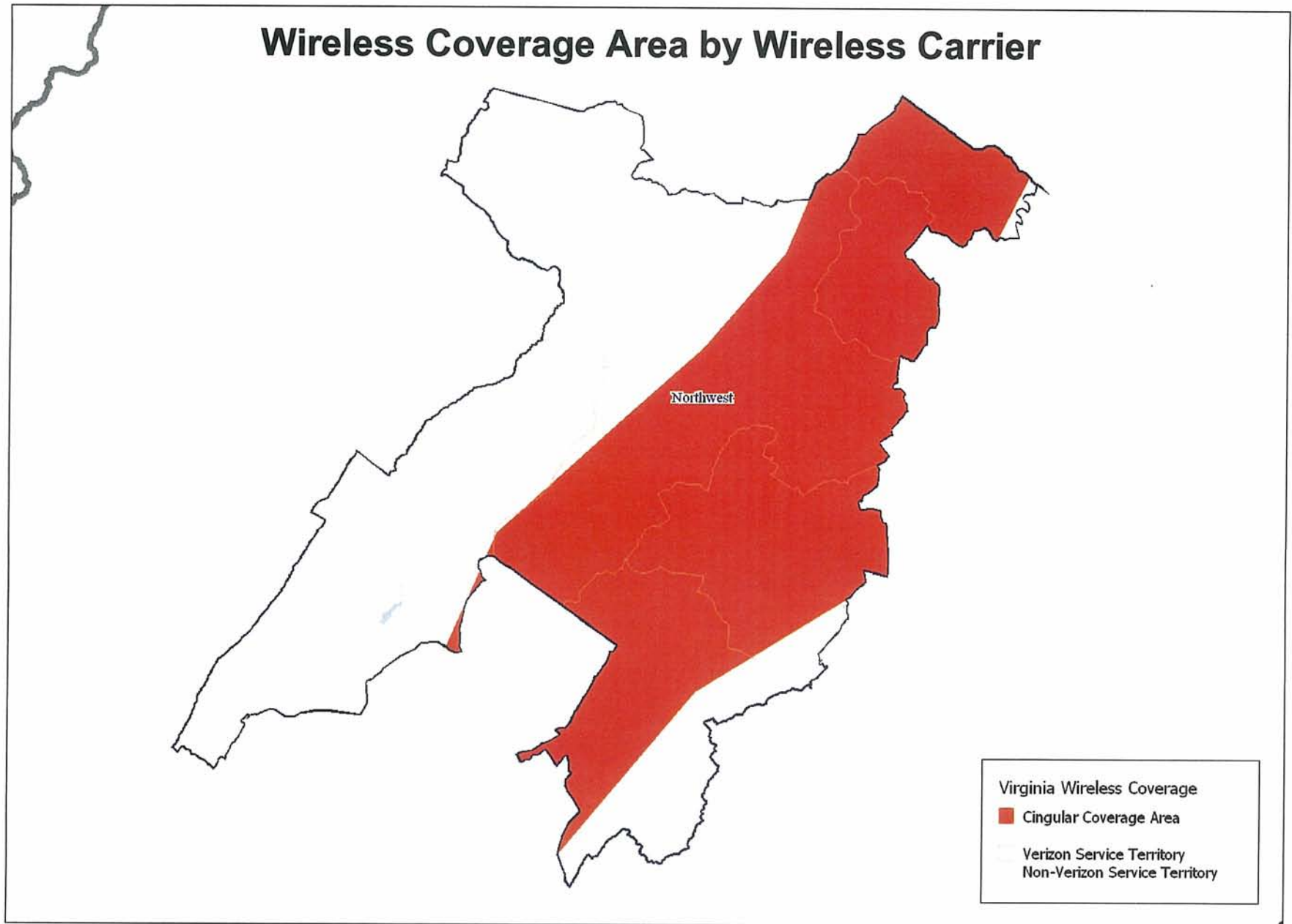
Wireless Coverage Area by Wireless Carrier



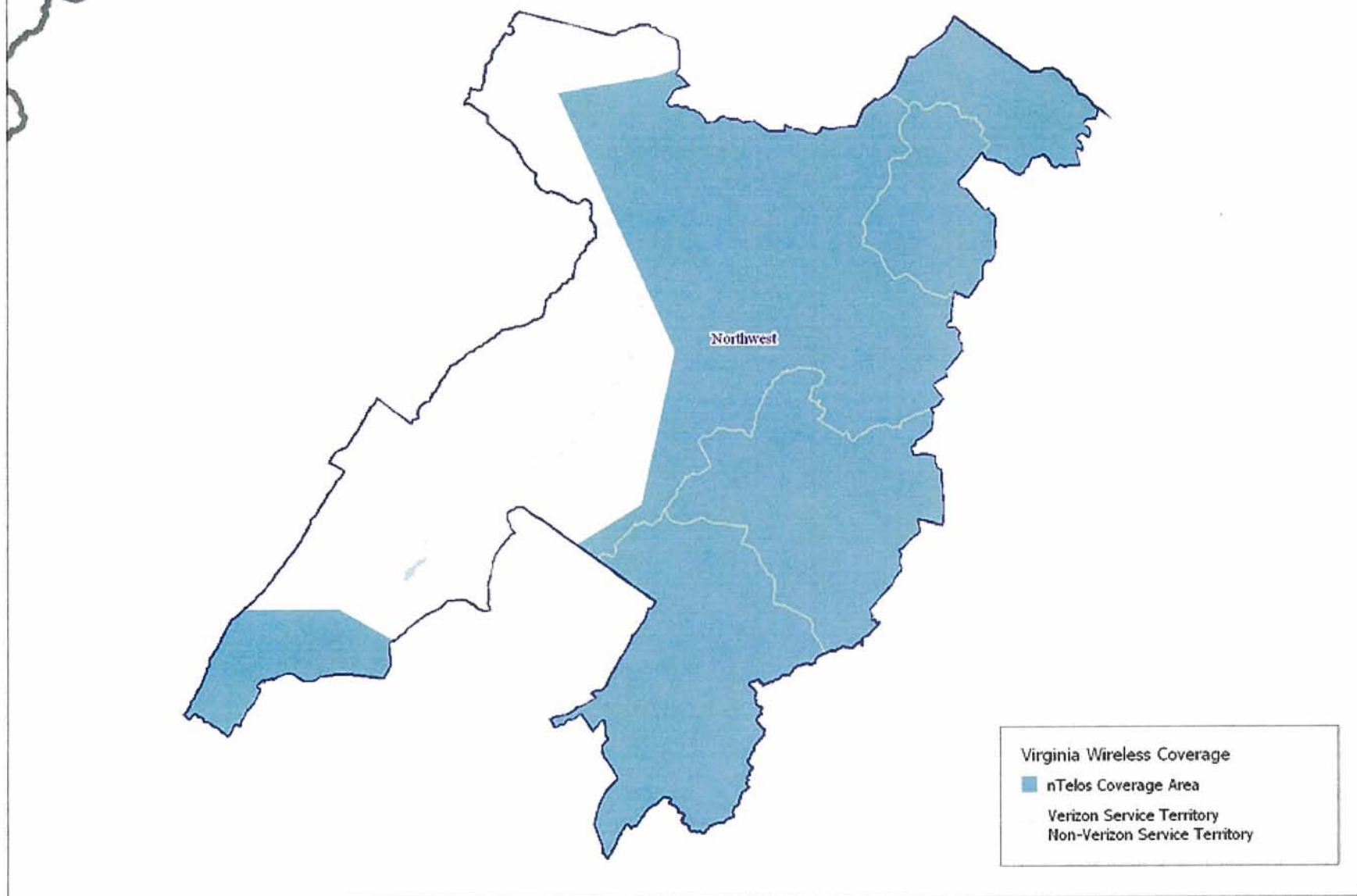
Wireless Coverage Area by Wireless Carrier



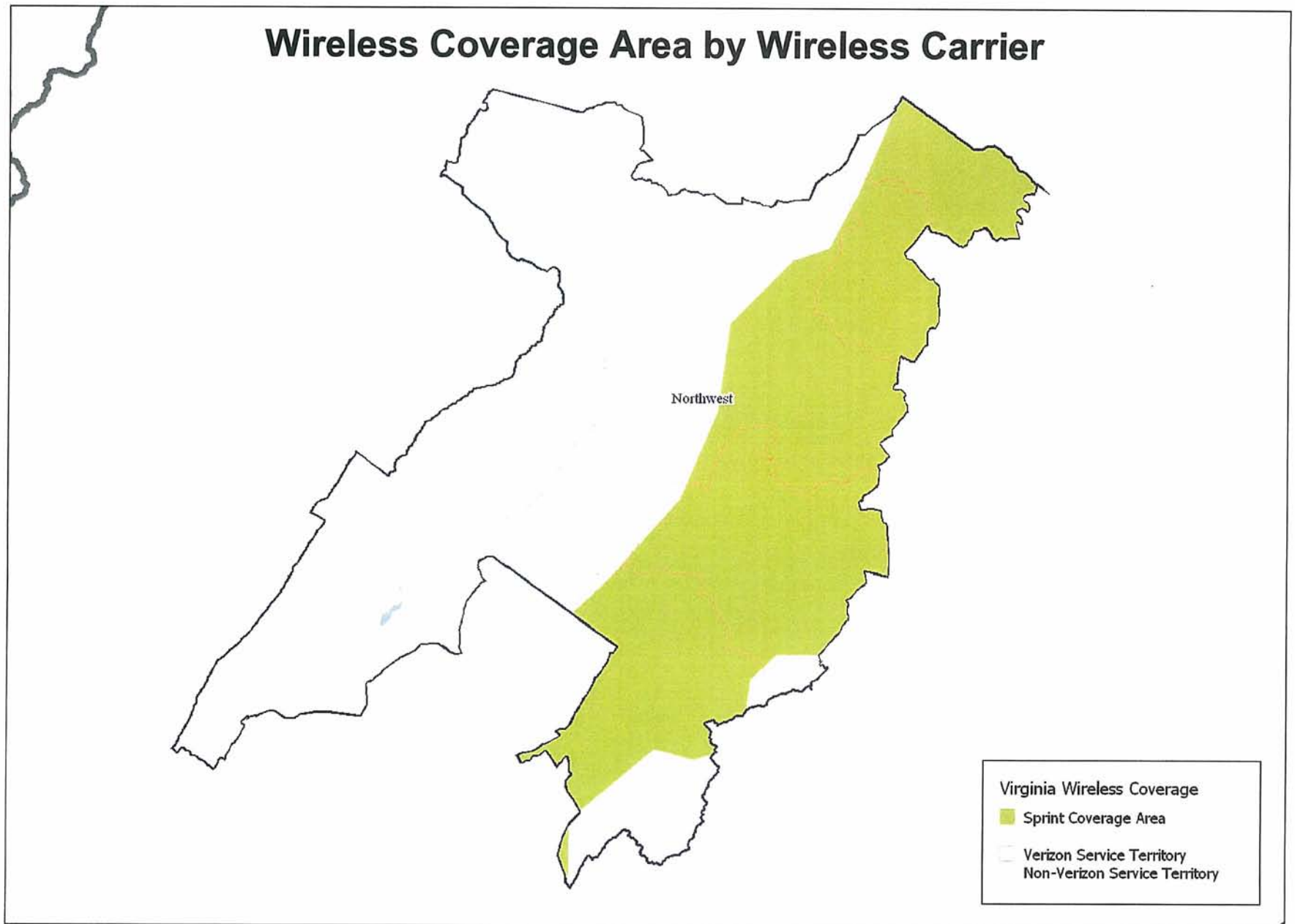
Wireless Coverage Area by Wireless Carrier



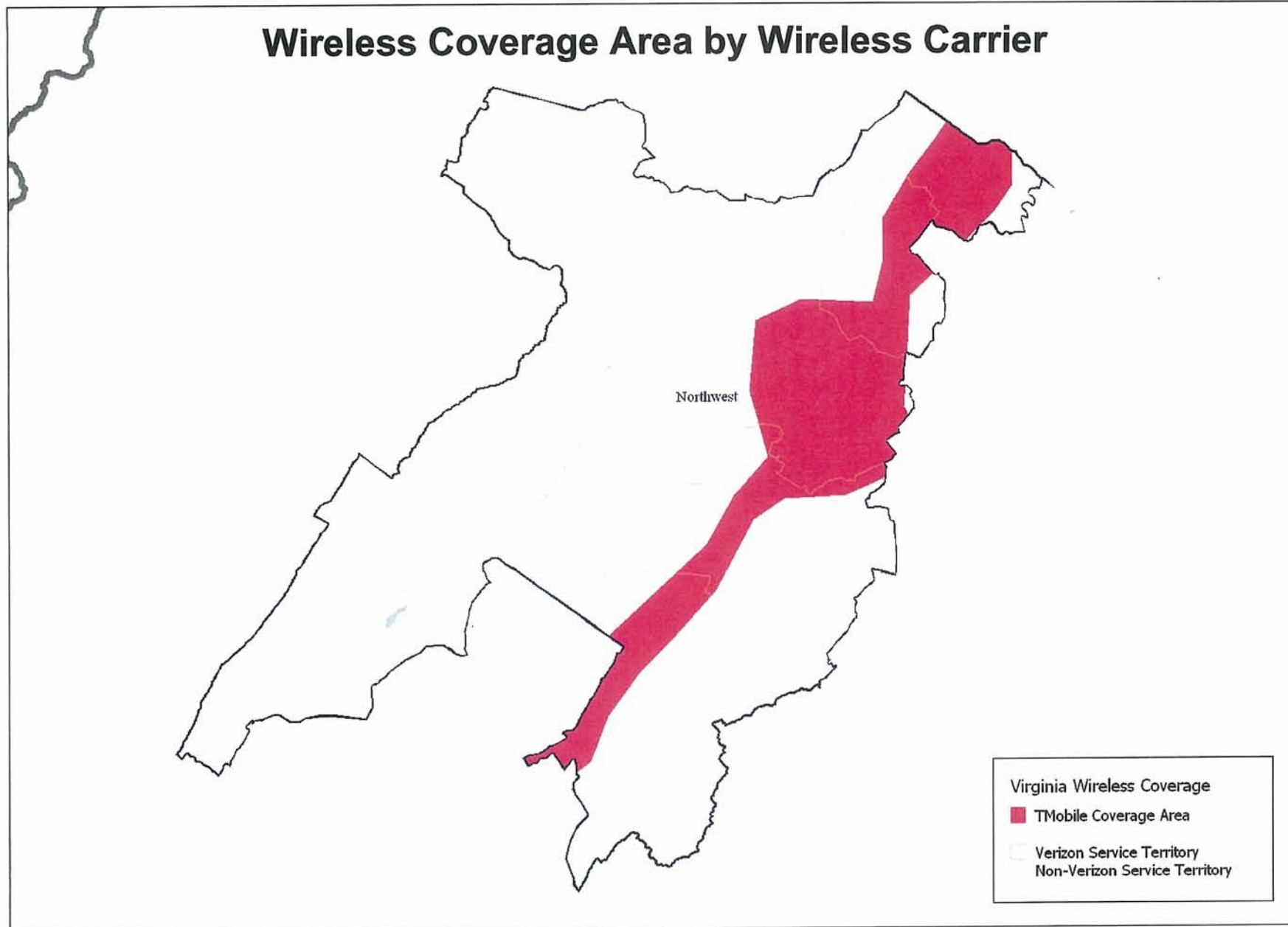
Wireless Coverage Area by Wireless Carrier



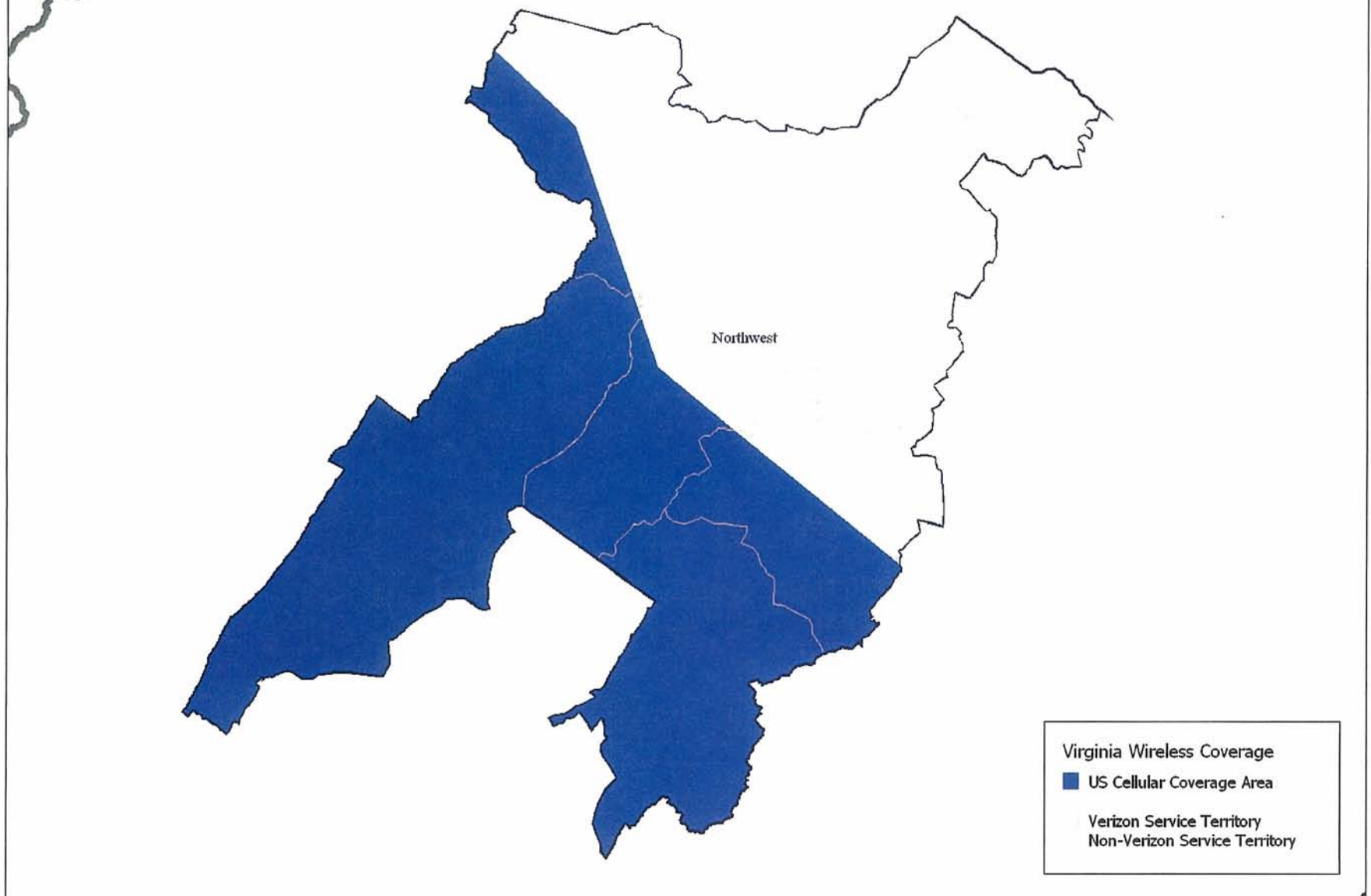
Wireless Coverage Area by Wireless Carrier



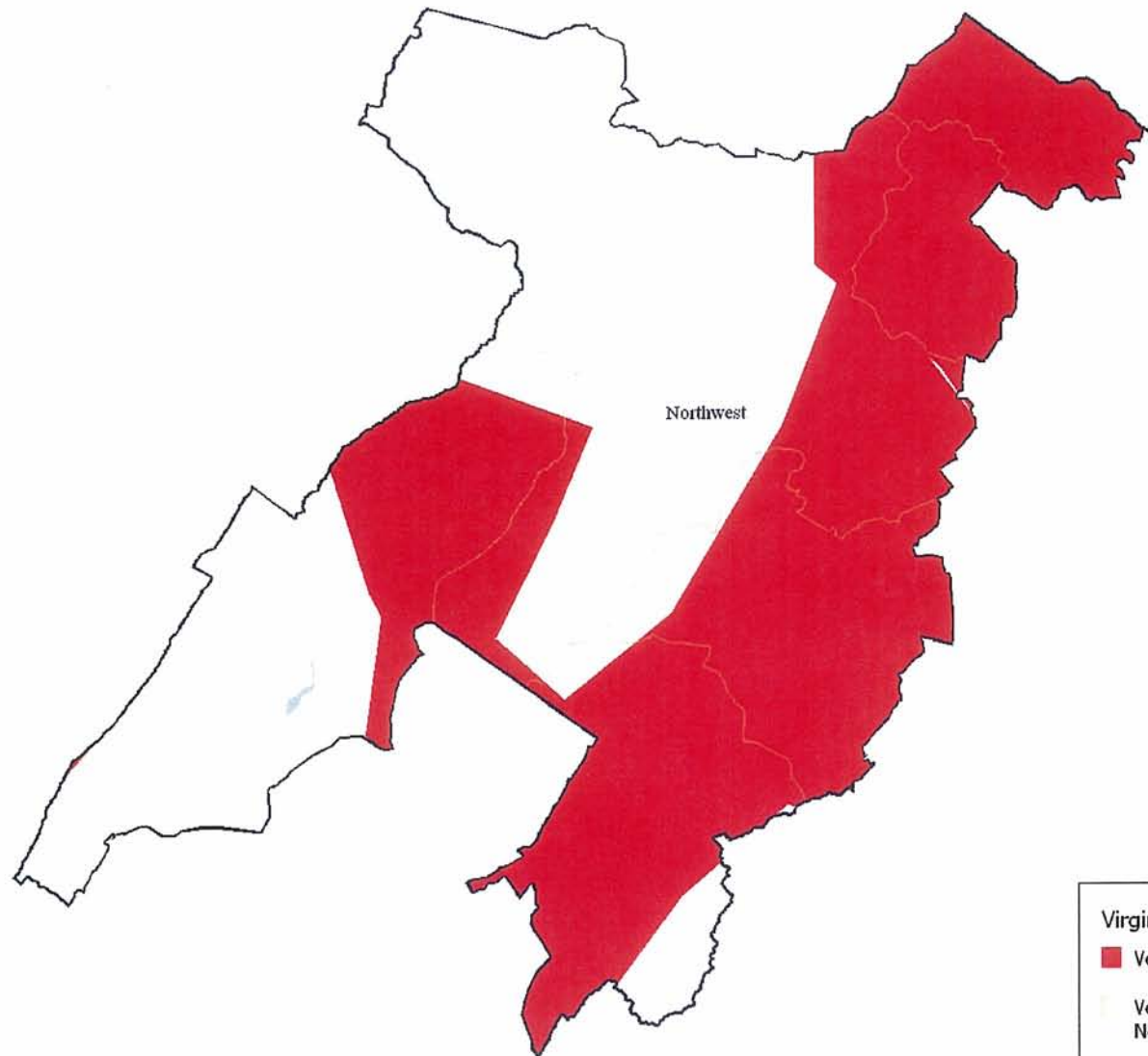
Wireless Coverage Area by Wireless Carrier



Wireless Coverage Area by Wireless Carrier



Wireless Coverage Area by Wireless Carrier



NWST-12

Wireless Coverage Area by Number of Carriers

No MSA-Northwest

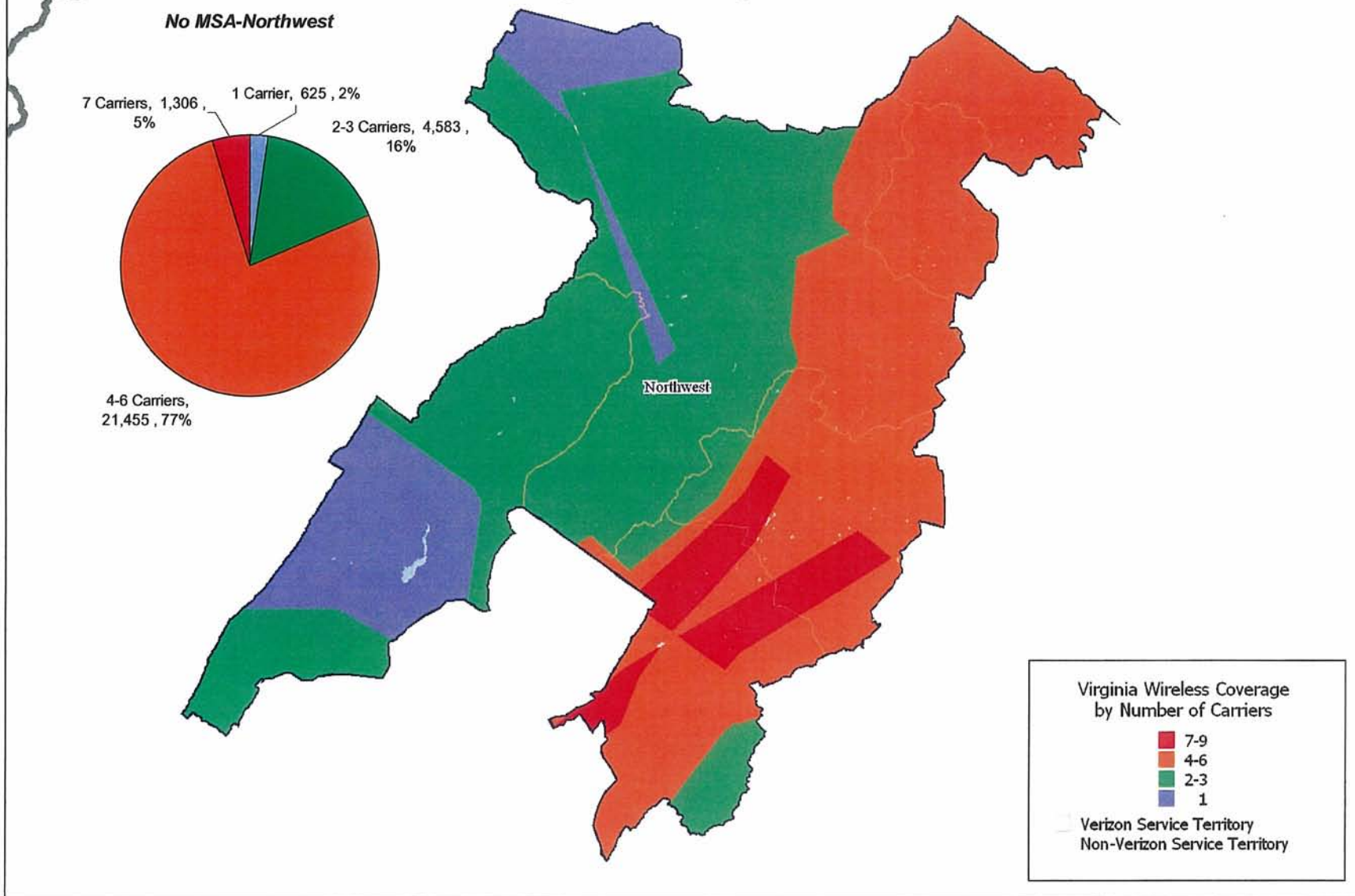
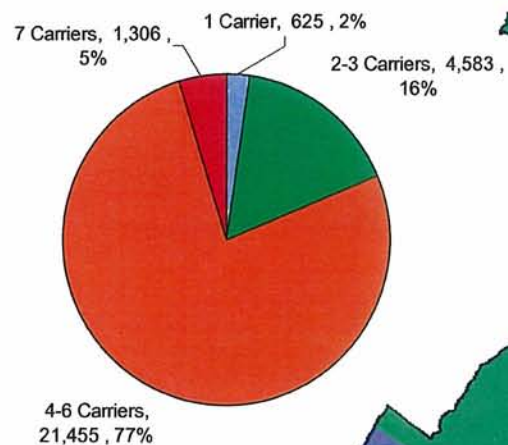


Exhibit NWST-12

Note: HH numbers reflect only those households in Verizon's Service Territory

NWST-13

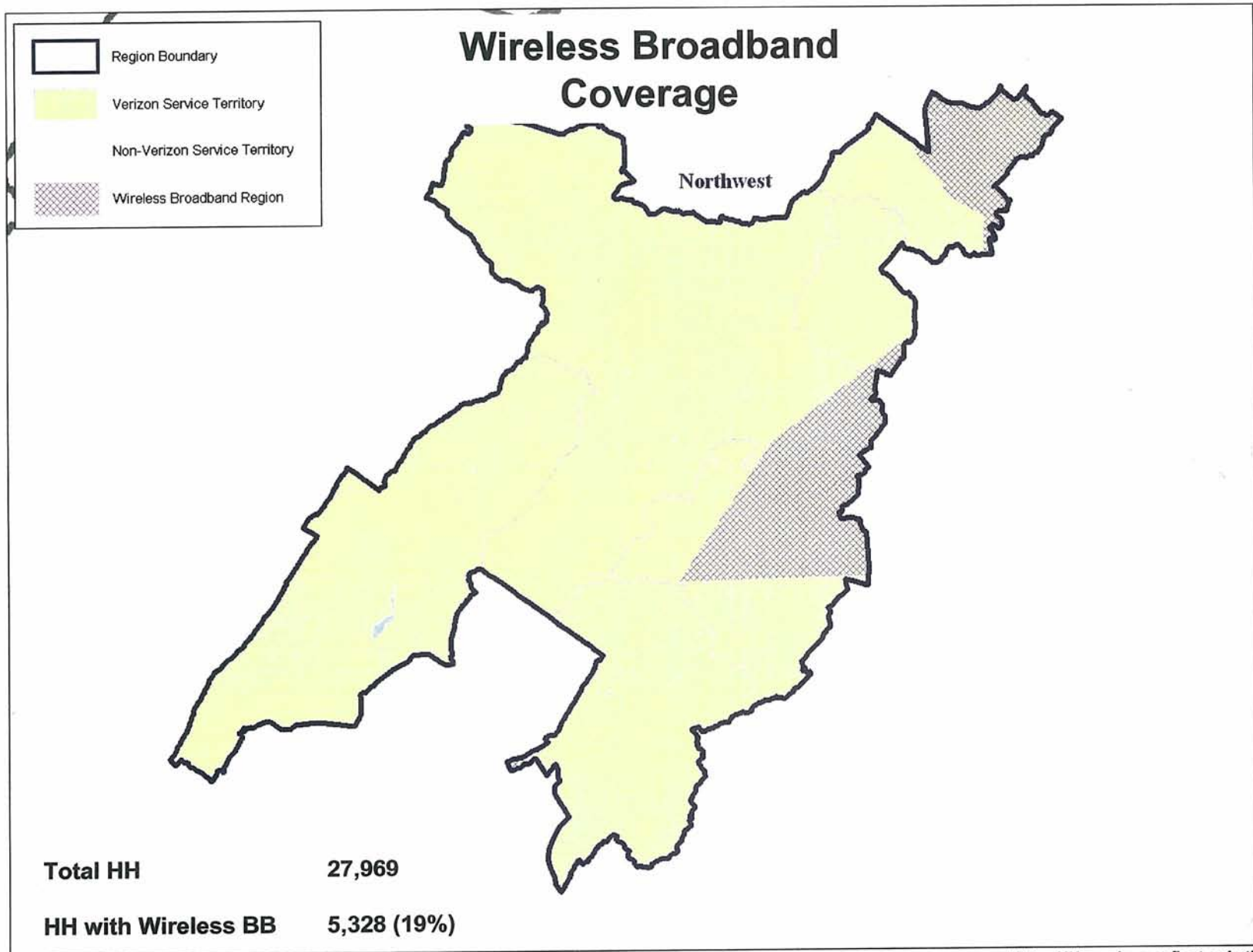


Exhibit NWST-13, page 1 of 2

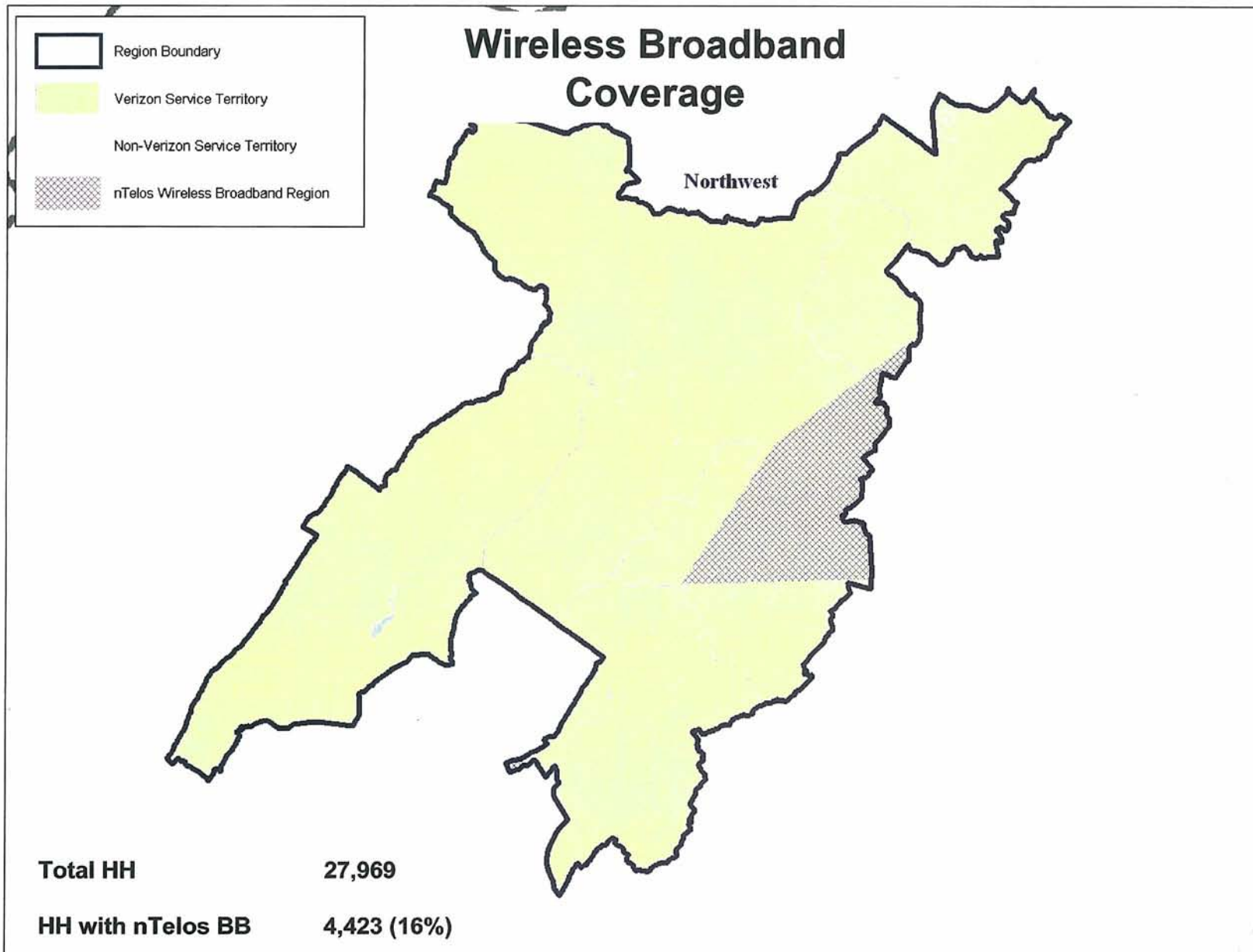


Exhibit NWST-13, page 2 of 2

Note: HH numbers reflect only those households in Verizon's Service Territory

NWST-14



CONFIDENTIAL
EXHIBIT NWST-14

NWST-15

CONFIDENTIAL
EXHIBIT NW8T-15

NWST-16

CONFIDENTIAL

EXHIBIT NWST-16

NWST-17

CONFIDENTIAL
EXHIBIT NWST-17

NWST-18

CONFIDENTIAL
EXHIBIT NWST-18

NWST-19

CONFIDENTIAL
EXHIBIT NWST-19